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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/707,161

11/24/2003

Jyh Chain Lin

1160

25859

7590

11/03/2005

WEI TE CHUNG
FOXCONN INTERNATIONAL, INC.
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EXAMINER

DIACOU, ARI M

ART UNIT

PAPER NUMBER

3663

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/707,161

Applicant(s)

LIN ET AL.

Examiner

Ari M. Diacou

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11-24-2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because the axes on the graph in Fig. 2 are neither quantified, nor qualified with units (is the output power measured in dBm, Candelas, W/m^2 ?). In addition, the symbols used for isolators in the instant application are non-canonical and must be changed, the canonical representation of an isolator in the art is a rectangle with an aspect ratio of ~ 2 with an arrow inside indicating the direction of propagation of light transmitting the length of the isolator. (See patents 5434701, 5301054, 6252700) Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the

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examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

2. Claims 1-7 are rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility. The examiner and the prior art as a whole, are not aware of any mechanism by which a doped fiber may amplify light at the same frequency as the pumping light. The examiner cites Yan et al. (USP No. 5982973) [Col. 4, lines 26-40] for disclosing the normal erbium laser operation.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The applicant provides to one skilled in the art no mechanism by which a lanthanide-doped fiber can amplify light of the same frequency as the pumping radiation.

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5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 7 recites a negative limitation ("is not a coupler"), as a result the metes and bounds of the claim cannot be ascertained.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. As best understood by the examiner, claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art disclosed in Fig. 4 of the instant application (or equivalently in view of Falquier et al. (USP No. 6429965), and further in view of Hecht. Falquier discloses a broadband light source comprising:

- a pump laser for producing a pump light; [Fig. 14A, #100] [Col. 18, lines 35-54].
- An erbium-doped fiber having a predetermined length [Fig. 14A, #118'] [Col. 18, lines 35-54].
- a wavelength division multiplexer (WDM) device with at least three ports, first and second ports of said three ports respectively connecting with the pump laser and said fiber; and [Fig. 14A, #110'] [Col. 18, lines 35-54].
- a first optical isolator connecting with a third port of the WDM device [Fig. 14A, #124] [Col. 18, lines 35-54].

but fails to disclose a second isolator attached to the fiber at point 17. Hecht teaches that isolators are commonly used at the output of amplifiers in order to mitigate Brillouin scattering. Contrary to the disclosure by the applicant (stating that the end of the fiber 17 is treated to mitigate reflection), Falquier does not teach any peculiarities of the fiber

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118', and we are to assume that outputted light is simply routed via fiber elsewhere.

Therefore, it would have been obvious to one skilled in the art (e.g. an optical engineer) at the time the invention was made, to put an isolator at the output of fiber 118', for the advantage of reducing Brillouin backscattering.

11. Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farquier in view of Hecht as applied to claim 1 above. Farquier and Hecht disclose the invention with all the limitations of claim 1 above, but in addition Farquier teaches:

- The broadband light source as described in claim 1, wherein said fiber is an erbium-doped fiber. [Fig. 14A, #118'] [Col. 18, lines 35-54]
- The broadband light source as described in claim 1, wherein the pump laser comprises a laser diode emitting light having a wavelength of 980 nm. ; [Fig. 14A, #100] [Col. 18, lines 35-54] [See Yan cited above for an explicit teaching of pumping with 980nm radiation]

Therefore, it would have been obvious to one skilled in the art (e.g. an optical engineer) at the time the invention was made, to employ the limitations of Farquier, for the advantage of lower R&D costs.

12. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farquier in view of Hecht as applied to claim 1 above and further in view of Griffiths. Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the length of fiber such that the reflected radiation is

equal in power to the transmitted radiation (In the language of Griffiths, $T=R=0.5$) suggested by Griffiths to achieve a desired result. It is well-settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

Conclusion

13. While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

14. The references made herein are done so for the convenience of the applicant. They are in no way intended to be limiting. The prior art should be considered in its entirety.

15. The prior art which is cited but not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ari M. Diacou whose telephone number is (571) 272-5591. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AMD 10/25/2005

Mark Hellner
Primary Examiner
AU 3663

A handwritten signature in black ink that reads "Mark Hellner". The signature is written in a cursive, flowing style.